§ 23.777 Cockpit controls.

(a) Each cockpit control must be located and (except where its function is obvious) identified to provide convenient operation and to prevent confusion and inadvertent operation.

(b) The controls must be located and arranged so that the pilot, when seated, has full and unrestricted movement of each control without interference from either his clothing or the cockpit structure.

(c) Powerplant controls must be located—

(1) For multiengine airplanes, on the pedestal or overhead at or near the center of the cockpit;

(2) For single and tandem seated single-engine airplanes, on the left side console or instrument panel;

(3) For other single-engine airplanes at or near the center of the cockpit, on the pedestal, instrument panel, or overhead; and

(4) For airplanes, with side-by-side pilot seats and with two sets of powerplant controls, on left and right consoles.

(d) The control location order from left to right must be power (thrust) lever, propeller (rpm control), and mixture control (condition lever and fuel cutoff for turbine-powered airplanes). Power (thrust) levers must be at least one inch higher or longer to make them more prominent than propeller (rpm control) or mixture controls. Carburetor heat or alternate air control must be to the left of the throttle or at least eight inches from the mixture control when located other than on a pedestal. Carburetor heat or alternate air control, when located on a pedestal must be aft or below the power (thrust) lever. Supercharger controls must be located below or aft of the propeller controls. Airplanes with tandem seating or single-place airplanes may utilize control locations on the left side of the cabin compartment; however, location order from left to right must be power (thrust) lever, propeller (rpm control) and mixture control.

(e) Identical powerplant controls for each engine must be located to prevent confusion as to the engines they control.

(1) Conventional multiengine powerplant controls must be located so that the left control(s) operates the left engines(s) and the right control(s) operates the right engine(s).

(2) On twin-engine airplanes with front and rear engine locations (tandem), the left powerplant controls must operate the front engine and the right powerplant controls must operate the rear engine.

(f) Wing flap and auxiliary lift device controls must be located—

(1) Centrally, or to the right of the pedestal or powerplant throttle control centerline; and

(2) Far enough away from the landing gear control to avoid confusion.

(g) The landing gear control must be located to the left of the throttle centerline or pedestal centerline.

(h) Each fuel feed selector control must comply with § 23.995 and be located and arranged so that the pilot can see and reach it without moving any seat or primary flight control when his seat is at any position in which it can be placed.

(1) For a mechanical fuel selector:

(i) The indication of the selected fuel valve position must be by means of a pointer and must provide positive identification and feel (detent, etc.) of the selected position.

(ii) The position indicator pointer must be located at the part of the handle that is the maximum dimension of the handle measured from the center of rotation.

(2) For electrical or electronic fuel selector:

(i) Digital controls or electrical switches must be properly labelled.

(ii) Means must be provided to indicate to the flight crew the tank or function selected. Selector switch position is not acceptable as a means of indication. The “off” or “closed” position must be indicated in red.

(3) If the fuel valve selector handle or electrical or digital selection is also a fuel shut-off selector, the off position marking must be colored red. If a separate emergency shut-off means is provided, it also must be colored red.

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